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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,478	11/14/2000	Christer Bohm	AB-1069-US	5474
7590 09/08/2004				
MacPherson Kwok Chen & Heid LLP				
Suite 226				
1762 Technology Drive				
San Jose, CA 95110				
		EXAMINER		
		PHAN, MAN U		
		ART UNIT		PAPER NUMBER
		2665		

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/700,478

Applicant(s)

BOHM ET AL.

Examiner

Man Phan

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,10-16,18,20 and 21 is/are rejected.
- 7) ☒ Claim(s) 5,9,17 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The application of Bohm et al. for a "Methods and apparatuses for providing synchronization in a communication network" filed 11/14/2000 has been examined. This application is a 371 of PCT/SE99/00811 filed 05/12/1999. . This application claims foreign priority based on the application 9801707-2 dated 05/14/1999 filed in Sweden. The preliminary amendment filed 11/14/2000 have been entered and made of record. Claims 1-21 are pending in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 6-8, 12-15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derby et al. (US#5,822,328) in view of Gauffin et al. (US#5,517,499).

With respect to claims 14-15 and 18, both Derby et al. (US#5,822,328) and Gauffin et al. (US#5,517,499) disclose a novel method and system for providing frame synchronization in time

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division multiplexed network, according to the essential features of the claims. Derby discloses in Fig. 1 a TDM synchronization mechanism that employs a 1 bit/frame framing channel, with a pattern that repeats every 2 frames (i.e., 01010101 . . .). Reliable acquisition and reacquisition of synchronization with such a simple framing pattern are enabled through the use of an explicit synchronization procedure. With this procedure, initial acquisition of frame synchronization as well as reframing after loss of synchronization are carried out while the transmission channel is carrying only a predefined bit pattern; in other words, the bandwidth employed for both initial synchronization and reframing after loss of synchronization is the entire aggregate bandwidth of the transmission link. When the receivers are "in sync," synchronization is monitored and maintained using the 1 bit/frame framing channel, while the link is carrying multiplexed bit streams with the appropriate format (Col. 2, lines 28 plus). Figs. 1 & 8 illustrated a TDM frame structure with N information channels, in which the bitstream being divided into recurring frames, and each frame being divided into time slots. The functions associated with the framing channel include: Acquisition of frame synchronization (also referred to herein as "sync"); i.e., determination by the receiver at start-up of the location of the framing channel; Maintenance of frame synchronization, i.e. continued proper identification of the framing channel, in the presence of occurrences of all or part of the framing bit pattern elsewhere in the frame; Maintenance of frame synchronization in the presence of bit errors; Reacquisition of frame synchronization following a severe error burst, during which synchronization had been lost. These functions are collectively performed by a frame synchronization algorithm (Col. 1, lines 24-46 and Col. 9, lines 41 plus).

However, Derby does not disclose expressly the step of transmitting the information to a frame synchronization providing node of the network, and for effecting provisions of the recurrent frame synchronization signal. In the same field of endeavor, Gauffin et al. (US#5,517,499) teaches a method and an arrangement for synchronizing two more individual communication networks of the time multiplex type, in order to form a composite network thereof, wherein the individual networks having nodes, in which cyclic transmission of time frames is performed, which include time slots intended for the data transmission. One node in the composite network is assigned the role as a superior master node determining the transmission speed of the individual communication networks. This is obtained by adding a fixed idle pattern to each time frame set out from the superior master node, followed by a fixed triggering pattern as a start of the next time frame. At the receipt of the triggering pattern at a master node in an individual communication network, which synchronizes the data transmission of the communication network, the master node starts sending a new time frame (Col. 1, lines 49 plus).

Regarding claims 1-2, 6-8, 12-13, they are method claims corresponding to the apparatus claims 14-15 and 18 above. Therefore, claims 1-2, 6-8, 12-13 are analyzed and rejected as previously discussed with respect to claims 14-15, 18.

One skilled in the art would have recognized the need for effectively and efficiently providing synchronization in a circuit switched TDM network utilizing the recurring frames, and would have applied Gauffin's teaching of the master node for controlling the transmission of frame synchronization information into Derby's novel use of the TDM synchronization mechanism employs recurring frames. Therefore, It would have been obvious to a person of

ordinary skill in the art at the time of the invention was made to apply Gauffin's method and arrangement for synchronizing two or more communication networks of the time multiplex type into Derby's frame synchronization mechanism for digital simultaneous voice/data modems with the motivation being to provide a method and system for providing synchronization in communication networks wherein data are transferred on bitstreams that are divided into recurrent frames.

Allowable Subject Matter

4. Claims 3-5, 9-11, 16-17 and 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest wherein the method is performed at a switch node that is arranged to switch data between time slots of a first bitstream and a second bitstream of the network, and wherein the detecting step comprises determining a frame drift between the first bitstream and second bitstream; generating step comprises generating information relating to a so-determined frame drift; and the transmitting step comprises transmitting the information relating to the frame drift to at least the frame synchronization providing node of the network, the data preferably being used at the frame synchronization providing node for affecting the provision of the recurrent frame synchronization signal based thereupon for eliminating the frame drift, as specifically recited in

claims 5, 9-11, 16-17. The prior of record also fails to disclose or suggest wherein the means for controlling the transmission of the recurrent frame synchronization information comprises means for adjusting the size of one or more frame of the bitstreams; adjusting the number of slots provided within the one or more frames of the bitstreams, as specifically recited in claims 3-4 and 20-21.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Gauffin et al. (US#5,517,499) is cited to show the method and an arrangement for synchronizing two or more communication networks of the time multiplex type.

The Bohm et al. (US#6,430,180) is cited to show the method and apparatus for switching data between bitstreams of a TDM network.

The Lindgren et al. (US#6,157,656) is cited to show the method and arrangement for dynamic signaling.

The Eschholz (US#6,278,718) is cited to show the distributed network synchronization system.

The Lypsanen (US#2001/0005361A1) is cited to show the telecommunication network synchronization.

The Antal et al. (US#6,587,472) is cited to show the fair channel allocation protocol for DTM networks.

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The Ramfelt et al. (US#2001/0015980A1) is cited to show the mapping of dynamic synchronous transfer mode network onto an optical network.

The Bohm et al. (US#5,982,780) is cited to show the resource management scheme and arrangement.

The Ramfelt et al. (US#5,960,002) is cited to show the defragmentation method and arrangement.

The Scanlon et al. (US#4,460,994) is cited to show the loop communication system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149.

The examiner can normally be reached on Mon - Fri from 6:30 to 3:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-3149.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

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Or: (703) 305-3988 (for informal or draft communications, please label "PROPOSED"

or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive,

Arlington. VA., Sixth Floor (Receptionist).

Mphan

09/02/2004.

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**MAN U. PHAN
PRIMARY EXAMINER**